

## NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

### FACT SHEET

(pursuant to NAC 445A.874)

Permittee Name: **Clark County Department of Aviation**  
Permit Project: **Former Express Gas**  
Permit Number: **UNEV2000216**

#### **A. Description of Injection**

**Location:** The single network of four (4) injection wells is located at 4811 South Paradise Road, Las Vegas, Nevada 89109 in the SW ¼ of Section 22 within T21S, R61E, MDB&M, in Clark County.

**Characteristics:** The injectate consists of a 3 % hydrogen peroxide solution prepared with dechlorinated water. It will be injected at a maximum of 100 gallons per thirty (30) days into a network of four (4) injection wells. This results in a maximum injectate volume of 300 gallons of 3 % hydrogen peroxide solution every quarter.

#### **B. Synopsis**

The former Express Gas facility previously served as both an automobile repair shop as well as a gasoline service station. The site is currently vacant and undeveloped. An initial investigation in 1992 provided evidence of non-chlorinated petroleum hydrocarbon contamination in the underlying soil and groundwater. In 1997, off-site monitoring wells were constructed which provided downgradient plume delineation information.

In 1992, 800 tons of impacted soil were excavated. In 1998, Oxygen Release Compound (ORC) was deployed into four (4) on-site monitoring wells. In November of 2000 a workplan, which included intermittent injections of a dilute solution of hydrogen peroxide at this site, was approved by the Bureau of Corrective Actions. This type of remediation is consequently being pursued as the long-term strategy.

The 3 % hydrogen peroxide solution utilized at this site will be pre-manufactured. The solution will be injected directly into the specified injection wells from a 500 gallon drum. The wells authorized for injection include MW-5, MW-10, MW-11 and MW-12. Twenty-five (25) gallons will be injected into each of the four (4) wells via gravity-feed every thirty (30) days. (See Attachment A for Site Map).

The hydrogen peroxide is expected to provide a source of oxygen for the indigenous microbes which should enhance the in-situ bioremediation process for the contaminants

present at this site. Monitoring will be implemented to ensure the contamination does not migrate as a result of injection.

**C. Receiving Water Characteristics:**

Groundwater sampling at this site has demonstrated the presence of dissolved petroleum hydrocarbons. The contaminant concentrations are in excess of the State and Federal action levels. The petroleum hydrocarbons are associated with a leaking fuel storage tank.

The geology encountered during well construction at the site consists of predominantly fine-grained sediments that are low in permeability. Groundwater is present at approximately 20 feet below ground surface and the average local gradient is estimated to be approximately 0.006 ft/ft in the northeasterly direction.

The groundwater quality at this site has demonstrated the following concentrations, as determined by groundwater samples analyzed in December of 2000:

<b>Constituent</b>	<b>Existing Groundwater Concentration</b>	<b>Limit</b>
Benzene	1,500 ppb	5 ppb (State and Federal Limit)
Toluene	1,600 ppb	100 ppb (State Limit)
Ethylbenzene	490 ppb	100 ppb (State Limit)
Xylenes (total)	1,180 ppb	200 ppb (State Limit)
MTBE	4,000 ppb	200 ppb (Site Specific Target Level)
Iron	6.3 ppm	0.6 ppm (secondary standard)
TDS	1,660 ppm	1000 ppm (secondary standard)

**D. Procedures for Public Comment**

Notice of the Division's intent to issue a permit authorizing the facility to inject into the groundwater of the State of Nevada will be sent to the Las Vegas Review Journal for publication. The notice will be mailed to interested persons on our mailing list (See Attachment B).

Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the publication date of the said public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected state, any affected interstate agency, the regional administrator of EPA Region IX or any interested agency, person or group of persons.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

**E. Proposed Determination**

The Division has made the tentative determination to issue the proposed permit for a five year period.

**F. Proposed Limitations and Special Conditions**

PARAMETER	FREQUENCY	LOCATION	LIMITATIONS
Benzene, Toluene, Ethylbenzene, total Xylenes (BTEX), and methyl tertiary butyl ether (MTBE)	Quarterly (Samples shall be taken no sooner than 10 days following injection event)	MW-5, MW-7, MW-9, MW-10, MW-11 and MW-12,	Monitor and Report
Dissolved Oxygen and pH	Quarterly	MW-5, MW-7, MW-9, MW-10, MW-11 and MW-12,	Monitor and Report
Iron II	Quarterly	MW-5, MW-7, MW-9, MW-10, MW-11 and MW-12,	Monitor and Report

PARAMETER	FREQUENCY	LOCATION	LIMITATION
Hydrogen peroxide: Concentration Volume per Well Date Injected	Each Injection Event	All Affected Injection Wells	3 % Solution with a maximum of 100 gallons per month, not to exceed a maximum of 300 gallons each quarter
Groundwater Elevation and Depth to Groundwater	Quarterly	All Site-Related Monitoring Wells	Monitor and Report

**G. Rationale for Permit Requirements**

The permit conditions will help to ensure that the injectate does not adversely affect the existing water quality or hydrologic regime.

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Date: February 2001